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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,376

06/03/2005

Hidemitsu Kasahara

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3565

23850 7590 06/02/2009  
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EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

06/02/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,376	<b>Applicant(s)</b> KASAHARA ET AL.	
	<b>Examiner</b> SHUANGYI ABU ALI	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-10 and 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/23/2005, 06/03/2005</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-4, and 11-13 in the reply filed on 03/04/2009 is acknowledged.

### ***Double Patenting***

Applicant is advised that should claim 3 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,663,948

Regarding claims 1, 3 and 11, '948 discloses a process of making calcium phosphate substrate by reacting a calcium compound with a water soluble phosphate. The reaction pH is in the range of 1.5-10 at a temperature of 20-97 °C. The reaction mixture is aged for about 0.1-100 hours (col. 6, line 45-col. 7, line 5). The '948 patent further discloses that the substrate further has the following properties (col. 3, lines 40-50 and table 2):

TABLE 2

Reference Examples	1	2	3	4
Support particles	M1	M2	M3	M4
Dm	0.8	1.5	4.5	25
am	1.2	1.7	1.4	1.2
pm	0.6	0.8	0.8	1.0
Sm	165	150	140	120
Tm1	7.3	8.1	9.6	12.9
Tm2	3.4	3.8	4.7	9.5

The reference differs from Applicant's recitations of claims by not disclosing identical ranges (pH, temperature and aging time). However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

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Since the calcium phosphate of '948 is made by a process substantially similar to the process for making calcium phosphate discloses in the instant invention, it is reasonably expected that calcium phosphate of '948 is substantially similar to that of the instant claims. Therefore, a prima facie case of obviousness has been established because the reference teaches "overlapping" ranges (the pH, the temperature, and aging time), and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

The teaching '948 is silent about the property of calcium phosphate the set forth by applicant in claim 1. However, the property( heat loss, standard deviation, the pore diameter and the amount of the fine pore diameter of the calcium phosphate) is determined by the constituents of the composition itself, the claimed property would be necessary followed from that of the teaching of '948.

Regarding claim 2, '948 disclose that the dispersion coefficient can be 1.2 and the sharpness can be 0.6-1.0(table2).

Regarding claims 4 and 12 -13, '948 discloses that the phosphate has a structure of hydroxyapatite. (col. 13, lines 50-51)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/  
Supervisory Patent Examiner, Art Unit 1793

/Shuangyi Abu-Ali/  
Examiner, Art Unit 1793